

Listing of the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-41. (Canceled)

42. (Previously presented) A method comprising a step of:

contacting a polypeptide with one or more cells under conditions that permit specific binding of the polypeptide to the cells, wherein the polypeptide has an amino acid sequence including a chlorotoxin subunit sequence less than 36 amino acids long, which subunit sequence comprises TTX₁X₂X₃MX₄X₅K (SEQ ID NO: 13), wherein

(a) X₁ is an acidic amino acid selected from the group consisting of aspartic acid and glutamic acid;

(b) X₂ is an amino acid selected from the group consisting of alanine, arginine, asparagine, aspartic acid, cysteine, glutamine, glutamic acid, glycine, histidine, isoleucine, leucine, lysine, proline, methionine, phenylalanine, serine, threonine, tryptophan, tyrosine, and valine;

(c) X₃ is an amide amino acid selected from the group consisting of asparagine and glutamine;

(d) X₄ is an amino acid selected from the group consisting of serine, threonine, and alanine; and

(e) X₅ is a basic amino acid selected from the group consisting of histine, lysine and arginine.

43. (Previously presented) The method of claim 42, wherein the one or more cells comprises at least one cancer cell and the polypeptide specifically binds to the at least one cancer cell.

44. (Previously presented) The method of claim 42, wherein the chlorotoxin subunit sequence comprises SEQ ID NO: 14 (TTDHQMARK).

45. **(Previously presented)** The method of claim 42, wherein the chlorotoxin subunit sequence comprises SEQ ID NO: 94 (TTDQQMTKK).

46. **(Previously presented)** The method of claim 42, wherein the chlorotoxin subunit sequence comprises SEQ ID NO: 95 (TTDPQMSSK).

47. **(Previously presented)** The method of claim 43, wherein the cancer cell is from a cancer selected from the group consisting of lung cancer, bone cancer, liver cancer, pancreatic cancer, skin cancer, cancer of the head or neck, cutaneous or intraocular melanoma, uterine cancer, ovarian cancer, rectal cancer, cancer of the anal region, stomach cancer, colon cancer, breast cancer, carcinoma of the fallopian tubes, carcinoma of the endometrium, carcinoma of the cervix, carcinoma of the vagina, carcinoma of the vulva, Hodgkin's Disease, cancer of the esophagus, cancer of the small intestine, cancer of the endocrine system, cancer of the thyroid gland, cancer of the parathyroid gland, cancer of the adrenal gland, sarcoma of soft tissue, cancer of the urethra, cancer of the penis, prostate cancer, chronic or acute leukemia, lymphocytic lymphomas, cancer of the bladder, cancer of the kidney or ureter, renal cell carcinoma, carcinoma of the renal pelvis, neoplasms of the central nervous system (CNS), neuroectodermal cancer, spinal axis tumors, glioma, meningioma and pituitary adenoma.

48. **(Previously presented)** The method of claim 42, wherein the polypeptide is linked to a cytotoxic agent.

49. **(Previously presented)** The method of claim 42, wherein the polypeptide is labeled.